FIG.1

TRANSMITTING SIDE

CHANNEL STATE

SUBCARRIER

5 RECEIVING SIDE

FIG.2

10 MULTICARRIER TRANSMISSION APPARATUS

TRANSMISSION DATA

- 10 12 MAPPING SECTION
 - 13 PHASE ROTATION SECTION
 - 14 IQ SEPARATION SECTION
 - 15 16 BUFFER
 - 17 INTERLEAVER
- 15 18 COMBINING SECTION
 - 19 S/P SECTION
 - 20 IFFT SECTION
 - 21 RADIO TRANSMISSION SECTION
- 20 FIG.3
 - 30 MULTICARRIER RECEPTION APPARATUS
 - 33 RADIO RECEPTION SECTION
 - 34 FFT SECTION
 - 35 PHASE COMPENSATION SECTION
- 25 36 IQ SEPARATION SECTION
 - 37 38 BUFFER
 - 39 DEINTERLEAVER

- 40 COMBINING SECTION
- 41 PHASE ROTATION SECTION
- 42 DEMAPPING SECTION

RECEPTION DATA

5

FIG.5

- I COMPONENT
- Q COMPONENT

SUBCARRIER

10

FIG.7

100 MULTICARRIER TRANSMISSION APPARATUS

TRANSMISSION DATA

- 101 MAPPING SECTION
- 15 102 PHASE ROTATION SECTION
 - 103 108 IQ SEPARATION SECTION
 - 104 105 109 110 BUFFER
 - 106 111 INTERLEAVER
 - 107 112 COMBINING SECTION
- 20 113 S/P SECTION
 - 114 IFFT SECTION
 - 115 RADIO TRANSMISSION SECTION

FIG.9

- 25 I COMPONENT
 - Q COMPONENT

FIG.11

I COMPONENT

Q COMPONENT

SUBCARRIER

5

FIG.13

200 MULTICARRIER TRANSMISSION APPARATUS

TRANSMISSION DATA

101 MAPPING SECTION

10 201 203 PHASE ROTATION SECTION

108 202 IQ SEPARATION SECTION

104 105 109 110 BUFFER

106 111 INTERLEAVER

107 112 COMBINING SECTION

15 113 S/P SECTION

114 IFFT SECTION

115 RADIO TRANSMISSION SECTION

FIG.14

20 300 MULTICARRIER RECEPTION APPARATUS

302 RADIO RECEPTION SECTION

303 FFT SECTION

304 PHASE COMPENSATION SECTION

305 IQ SEPARATION SECTION

25 306 307 313~316 BUFFER

308 317 318 DEINTERLEAVER

309 319 320 COMBINING SECTION

310 PHASE ROTATION SECTION

311 SEPARATION SECTION

312 LLR CALCULATION SECTION

FIRST BIT

5 SECOND BIT

THIRD BIT

FOURTH BIT

321 DEMAPPING SECTION

RECEPTION DATA

10

FIG.16

FIRST BIT

SECOND BIT

THIRD BIT

15 FOURTH BIT

RECEPTION POINT

CANDIDATE POINT FOR "1"

CANDIDATE POINT FOR "0"

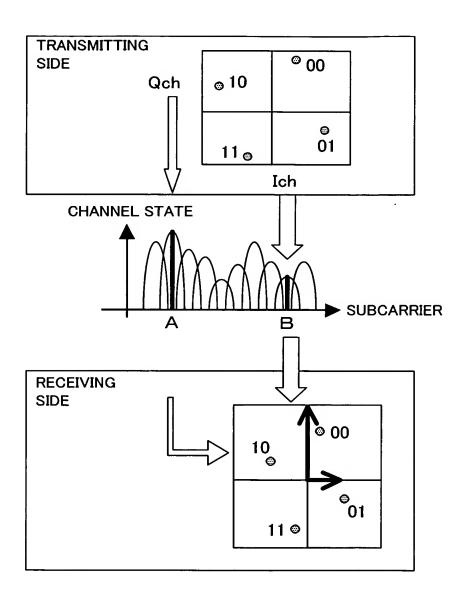
20 FIG.17

RECEPTION POINT X

CANDIDATE POINT FOR "1"

CANDIDATE POINT FOR "0"

POSITION

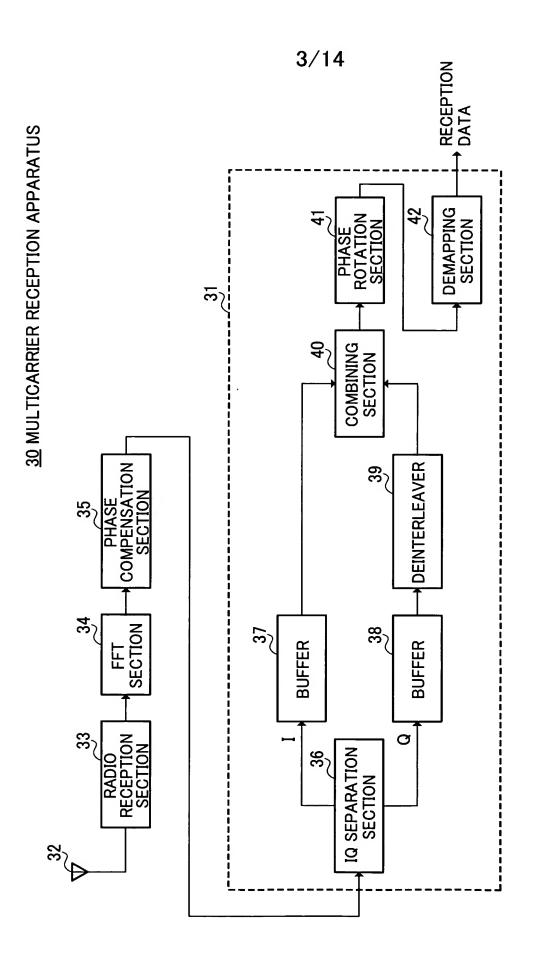


PRIOR ART

FIG.1

FIG.2

PRIOR ART



PRIOR ART

FIG.3

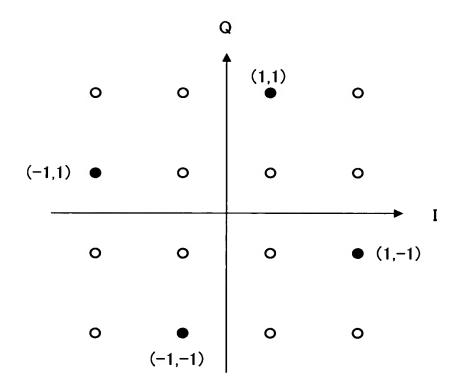


FIG.4

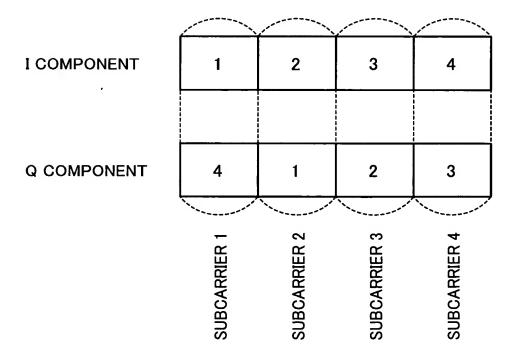


FIG.5

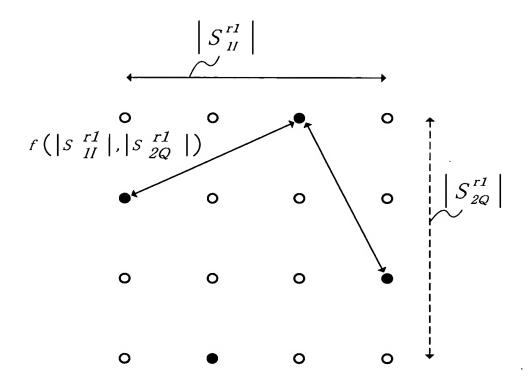
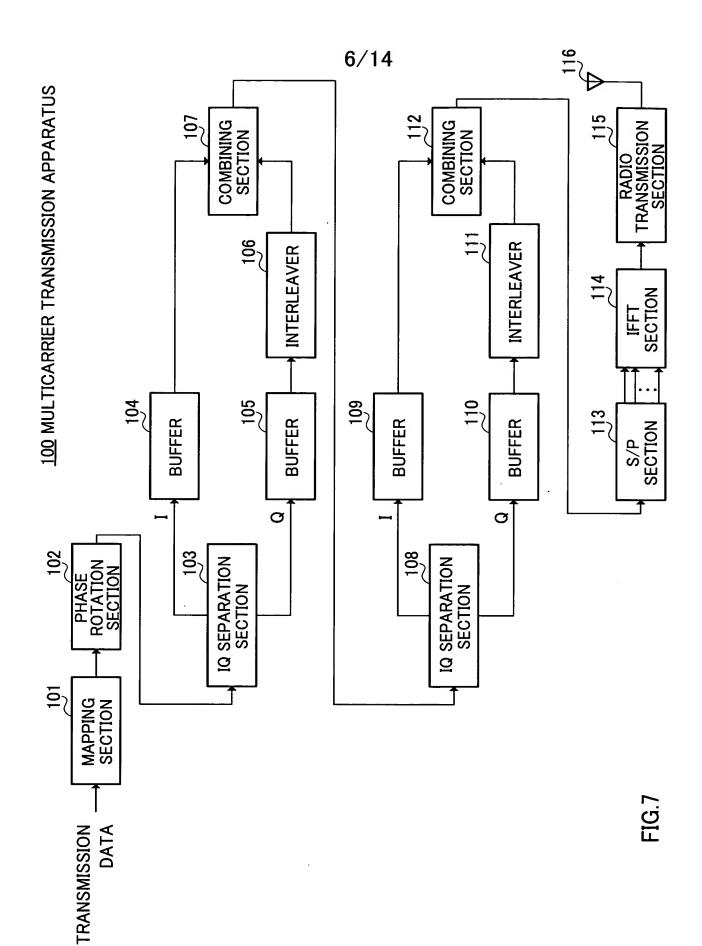


FIG.6



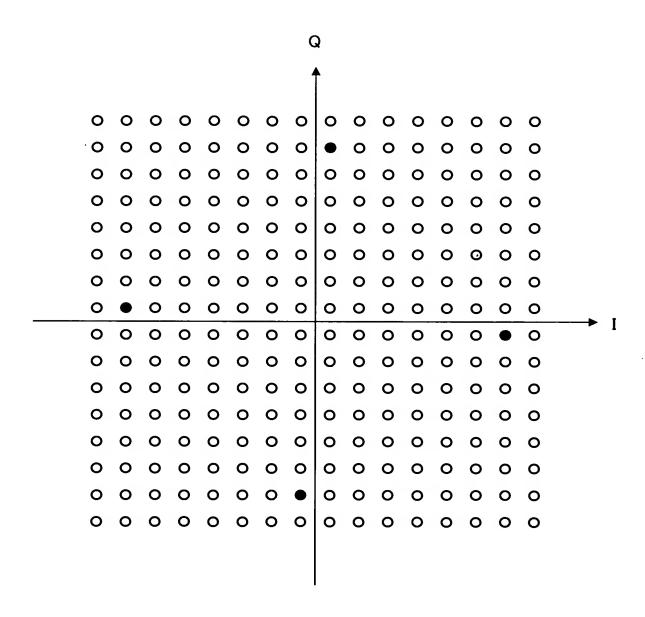


FIG.8

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I COMPONENT	1	2	3	4
Q COMPONENT	4	1	2	3

FIG.9

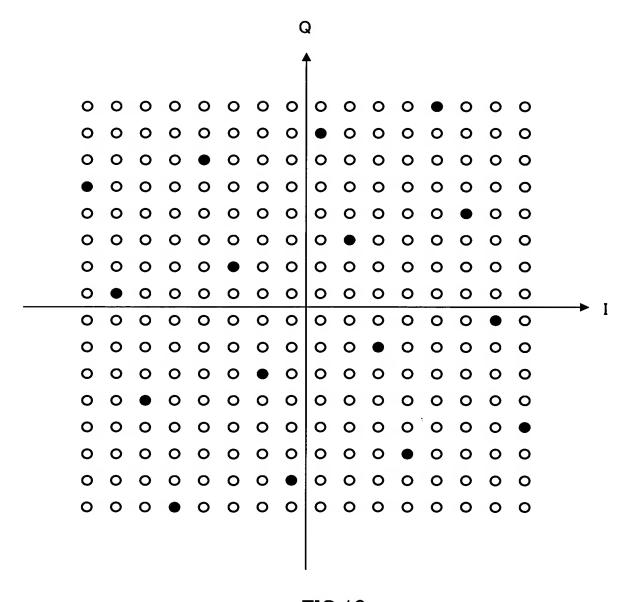


FIG.10

SUBCARRIER S. SU

FIG.11

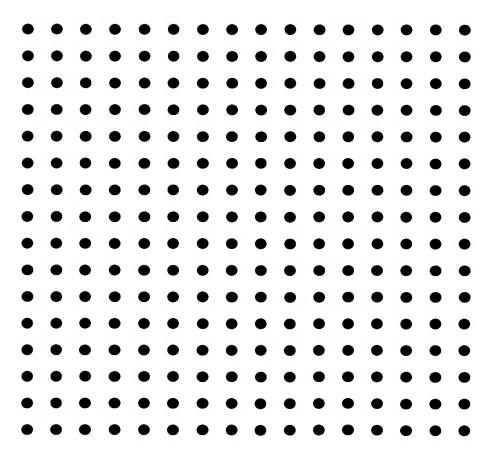
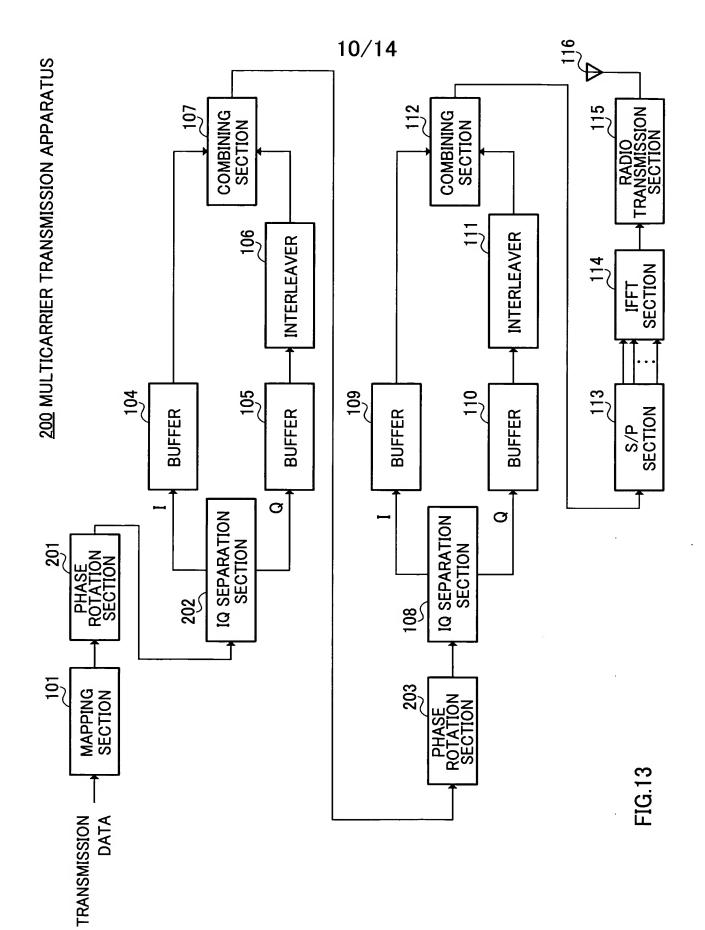
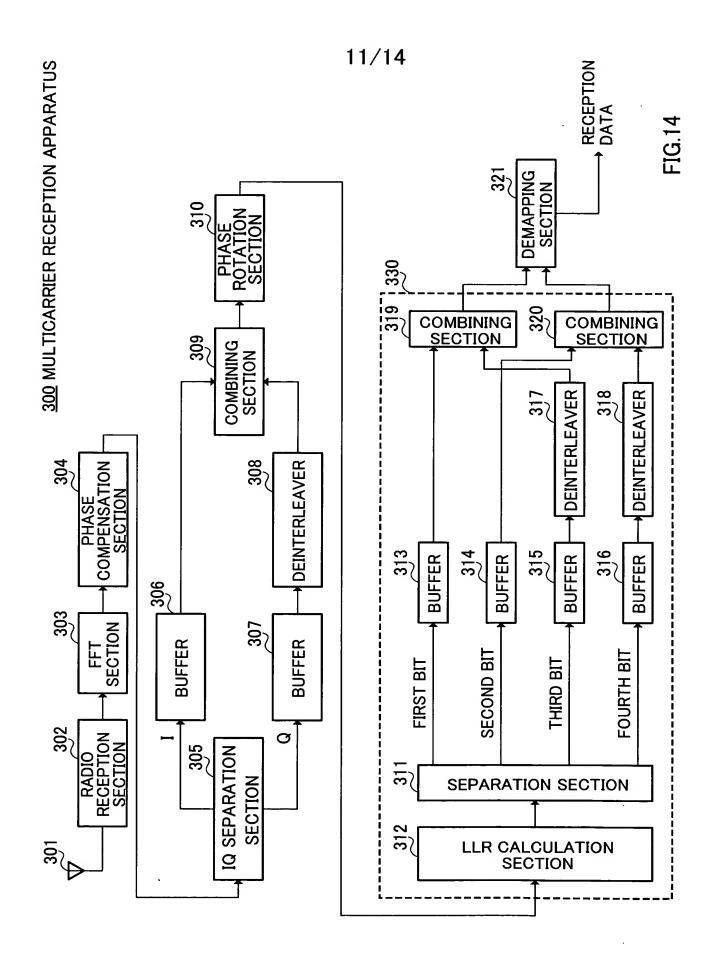


FIG.12





0	0	0	0
(1,0,0,0)	(1,1,0,0)	(0,0,0,0)	(0,1,0,0)
0	0	0	0
(1,0,1,0)	(1,1,1,0)	(0,0,1,0)	(0,1,1,0)
0	0	0	0
(1,0,0,1)	(1,1,0,1)	(0,0,0,1)	(0,1,0,1)
0	0	0	0
(1,0,1,1)	(1,1,1,1)	(0,0,1,1)	(0,1,1,1)

FIG.15

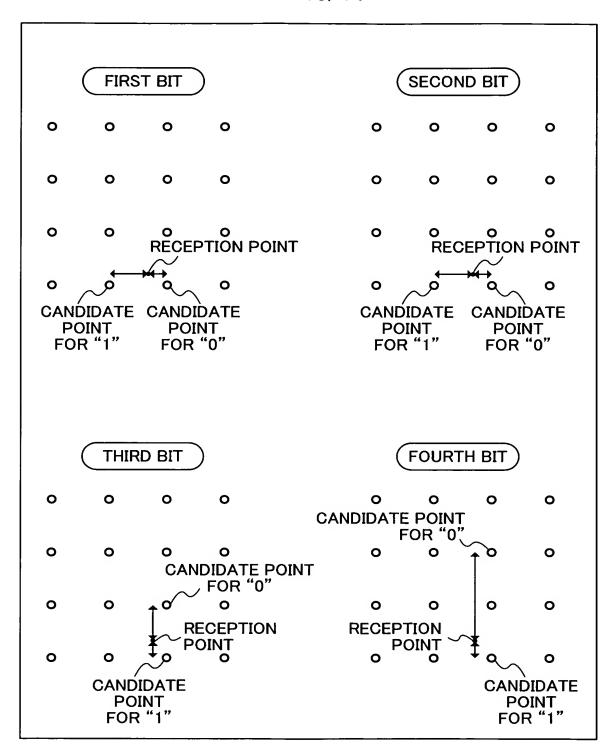


FIG.16

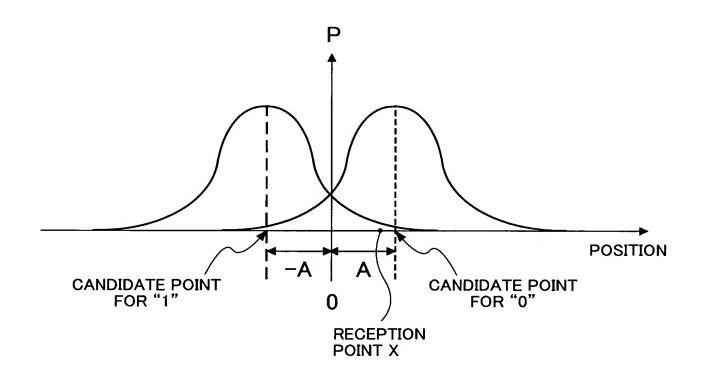


FIG.17